



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/355,987

11/18/1999

JOSEPH GIOVANNI BARRESI

6224/JCK

7192

181 7590 06/27/2007  
MILES & STOCKBRIDGE PC  
1751 PINNACLE DRIVE  
SUITE 500  
MCLEAN, VA 22102-3833

EXAMINER

MORILLO, JANEL COMBS

ART UNIT

PAPER NUMBER

1742

MAIL DATE

DELIVERY MODE

06/27/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 09/355,987	Applicant(s) BARRESI ET AL.	
	Examiner Janelle Combs-Morillo	Art Unit 1742	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 9/27/2002, 03/22/2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3,5 and 7-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,5 and 7-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. Pursuant to the Petition to revive the instant case and the granting of said Petition on June 13, 2007, an office action responding to the RCE/CPA filed March 11, 2002, as well as the submission September 27, 2002 follows.

#### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

#### *Claim Rejections - 35 USC § 102/103*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3, 5, 7-19 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over “Aluminum and Aluminum Alloys” p 98-101, 220, 718-719, 722.

The “Aluminum and Aluminum Alloys” teaches that cast aluminum alloy 356.0 has a composition comprising:

6.5-7.5% Si  
0.20-0.45% Mg  
0.6% max. Fe  
balance aluminum and impurities

Art Unit: 1742

(page 718), which substantially overlaps “with sufficient specificity” the composition as presently claimed in claims 1, 4, 5, and 15. “Aluminum and Aluminum Alloys” teaches that castings of Al-Si alloy A356 have high strength and high elongation when the dendritic cell size ranges from are low, for instance 25  $\mu\text{m}$  (Fig. 44 page 220), which meets the instant DAS limitation (cl. 1 and 6). Said Al-Si casting alloy is typically solution heat treated at typically 535-540°C for 8-12 hours, quenched in hot water ( $\sim 65\text{-}100^\circ\text{C}$ ), and aged at 150-230°C for 2-9 hours (Table 36, page 722), which are substantially the same process steps as presently claimed in claims 12-14, 19.

Concerning the presence of iron containing phases  $\beta$  and  $\pi$  (cl. 1-3, 5, 7-10, 16, 17), the prior art does not teach what phases are present in the final (and intermediate) aluminum alloy processed as stated above. However, because “Aluminum and Aluminum Alloys” teaches casting at a solidification rate suitable to produce fine DAS within the instantly claimed range, and the present specification states that “solution treatment at 540°C for 2 or more hours produced desired levels of transformation of  $\beta$  to  $\pi$  phase” (page 8 lines 13-15), which is substantially the same as the solution heat treatment steps of the prior art. Because the prior art discloses a substantially identical aluminum alloy processed in substantially the same steps, substantially the same product would result as presently claimed.

It is held “Aluminum and Aluminum Alloys” anticipates the presently claimed invention.

Alternatively, overlapping ranges have been held to be a prima facie case of obviousness, see MPEP § 2144.05. It would have been obvious to one of ordinary skill in the art to select any portion of the range, including the claimed range, from the broader range disclosed in the prior art, because the prior art finds that said composition in the entire disclosed range has a suitable

Art Unit: 1742

utility. It is held that "Aluminum and Aluminum Alloys" has created a prima facie case of obviousness of the presently claimed invention.

Once a reference teaching product appearing to be substantially identical is made the basis of a rejection, and the examiner presents evidence or reasoning tending to show inherency, the burden shifts to the applicant to show an unobvious difference. "[T]he PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his [or her] claimed product. Whether the rejection is based on inherency' under 35 U.S.C. 102, on prima facie obviousness' under 35 U.S.C. 103, jointly or alternatively, the burden of proof is the same...[footnote omitted]." The burden of proof is similar to that required with respect to product-by-process claims. In re Fitzgerald, 619 F.2d 67, 70, 205 USPQ 594, 596 (CCPA 1980) (quoting In re Best, 562 F.2d 1252, 1255, 195 USPQ 430, 433-34 (CCPA 1977)), see MPEP 2112. In re Schreiber, 128 F.3d 1473, 1478, 44 USPQ2d 1429, 1432 (Fed.Cir.1997). Applicant has not clearly shown an unobvious difference between the instant invention and the prior art's product or process.

Concerning claims 11 and 18, "Aluminum and Aluminum Alloys" at p 98-101 details that foundry alloys (such as 356) are cast while liquid/molten (see for instance, p 99 bottom of 1<sup>st</sup> column, p 99 3<sup>rd</sup> column) and solidify into 'castings'.

### ***Response to Arguments***

5. The declaration under 37 CFR 1.132 filed September 27, 2002 is partially sufficient to overcome the rejection of claims 1-3, 5, 7-20 based upon "ASM Handbook Vol. 2" as set forth in the last Office action because: the examiner agrees that the general teaching of DAS on p 133 of

Art Unit: 1742

"ASM Handbook Vol. 2" would be an initial guideline, and combined with Al-Si composition 356 may or may not result in the product of the invention.

6. Upon further consideration and search, the examiner found "Aluminum and Aluminum Alloys" which is closer to the instant invention than previously applied "ASM Handbook Vol. 2". The teachings of "Aluminum and Aluminum Alloys" are drawn also to alloy 356, but "Aluminum and Aluminum Alloys" additionally teaches a fine DAS of 25  $\mu\text{m}$  (*applied specifically to Al-Si alloy 356*) leads to improved strength and elongation combination (see above rejection for details).

7. Declarant argues that there is a difference in solution heat treatment times, however, the times and temperatures taught by "Aluminum and Aluminum Alloys" fall within or significantly overlaps the presently claimed times and temperatures.

Once a reference teaching product appearing to be substantially identical is made the basis of a rejection, and the examiner presents evidence or reasoning tending to show inherency, the burden shifts to the applicant to show an unobvious difference. "[T]he PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his [or her] claimed product. Whether the rejection is based on inherency' under 35 U.S.C. 102, on prima facie obviousness' under 35 U.S.C. 103, jointly or alternatively, the burden of proof is the same...[footnote omitted]." The burden of proof is similar to that required with respect to product-by-process claims. In re Fitzgerald, 619 F.2d 67, 70, 205 USPQ 594, 596 (CCPA 1980) (quoting In re Best, 562 F.2d 1252, 1255, 195 USPQ 430, 433-34 (CCPA 1977)), see MPEP 2112. In re Schreiber, 128 F.3d 1473, 1478, 44 USPQ2d 1429, 1432

Art Unit: 1742

(Fed.Cir.1997). Applicant has not clearly shown an unobvious difference between the instant invention and the prior art's product or process.

***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janelle Combs-Morillo whose telephone number is (571) 272-1240. The examiner can normally be reached on 8:30 am- 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JCM

June 21, 2007

ROY KING  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700